

REMARKS

Favorable reconsideration of this application is respectfully requested.

Claims 1-8, 10, and 12 are pending in this application. Claims 9 and 11 are canceled by the present response without prejudice. Claims 1 and 2 are herein amended. No new matter is added.¹ Claims 1-12 were rejected under 35 U.S.C. § 103(a) as unpatentable over WO 01/774122 to Tojo et al. (herein "Tojo")² in view of U.S. patent 4,790,859 to Marumo et al. and JP 2000-160390 to Fumio et al. (herein "Fumio"). That rejection is traversed by the present response as discussed next.

Each of independent claims 1 and 2 is amended by the present response to clarify that in the box-shaped body the three compartments have a structure such that "said first compartment is located between said second compartment and said third compartment so that said second compartment and said third compartment are not in contact with each other". That subject matter is shown for example in Figures 1-3 in the present specification.

The claimed features are believed to clearly distinguish over the applied art.

First, applicants respectfully submit none of the applied art to Tojo, Marumo, nor Fumio disclose or suggest the features newly recited in the claims that "said first compartment is located between said second compartment and said third compartment so that said second compartment and said third compartment are not in contact with each other".

With respect to the feature of dividing a box-shaped body into three separate compartments the outstanding Office Action states:

JP '390 teaches separating the control system and the electroplating cell in separate rooms and the oxygen and hydrogen gases are also discharged in the separate rooms to avoid potential hazardous or unsafe conditions due to cross contamination (paragraph [0045, 0057]). In addition, JP' 390

¹ Applicants submit the amendments to claims 1 and 2 are fully supported by the original specification, for example in Figures 1-3.

² In addressing the teachings in WO 01/77412 the Office Action relied on U.S. Patent 6,818,105 B2, which is an English language version of WO 01/77412. The presently submitted remarks also rely on that U.S. patent 6,818,105 B2.

does not require that the separate rooms for housing the control system and the electroplating cell to be located away from each other. Therefore, the Examiner considers two rooms located right next to each other with a shared wall within the scope of JP '390's invention.³

Further, in maintaining the outstanding rejection the outstanding Office Action states:

Furthermore, the concept of separately housing the major component of an electrolysis unit to avoid cross-contamination is shown in JP'390. The examiner believes that it would have been within the skills of one of ordinary skill in the art to derive from the teachings of JP'390 and implement additional housing to isolate other equipments of an electrolyzer unit to avoid cross-contamination. The exact positioning of placement of the housing components are merely an obvious matter of design choice absent any persuasive evidence that any particular arrangement is significant. See M.P.E.P. 2144.04.⁴

In reply to the above grounds for rejection, applicants note Fumio (JP '390) merely discloses placing an electrochemical plating device and a control system in two separate rooms to avoid contamination of the electrochemical plating device when the control system undergoes maintenance work. Even assuming that such a feature in Fumio is similar to the claimed first, second, and third compartments, which applicants dispute as discussed further below, clearly that disclosure in Fumio of utilizing two separate rooms does not correspond to the claimed features that "said first compartment is located between said second compartment and said third compartment so that said second compartment and said third compartment are not in contact with each other." In fact, no disclosure in any of Tojo, Marumo, nor Fumio is directed to such claimed features.

Moreover, applicants traverse the above-noted position that one of ordinary skill in the art would derive from the teachings of Fumio (JP '390) to isolate other components of an electrolyzer and that the positioning and placement of housing components are an insignificant design choice.

³ Office Action of January 24, 2008, page 4, second paragraph.

⁴ Office Action of January 24, 2008, the paragraph bridging pages 8 and 9.

First, applicants submit the disclosure in Fumio (JP '390) should be considered for what it teaches, which is merely utilizing two separate rooms such that a plating section is installed in a first room and a management department is installed in a separate room. In that respect, Fumio discloses O₂ and H₂ gas can be discharged to different places by placing a plate section and control section in different chambers. The actual teachings in Fumio are not at all directed to providing separate housings for isolating electrolyzer units or other units to avoid cross-contamination.

Further, the above-noted reliance on M.P.E.P. § 2144.04 is not at all understood. In reviewing that section § 2144.04 the topics discussed therein are I. Aesthetic Design Changes, II. Elimination of a Step or an Element and its Function, III. Automating a Manual Activity, IV. Changing Size, Shape, or Sequence of Adding Ingredients, V. Making Portable, Integral, Separable, Adjustable, or Continuous, and VI. Reversal, Duplication or Rearrangement of Parts. None of these sections in M.P.E.P. § 2144 is directed to the modifications needed in Fumio to meet the claimed features or the differences between the features recited in the claims and the applied art to Fumio.

Further, applicants traverse the above-noted grounds for rejection that the positioning and placement of housing compartments are just an insignificant design choice.

The applicants of the present invention recognized that in a fluorine gas generator such as recited in amended independent claims 1 and 2, several components exist that may increase the risk of a gas leakage, such as a valve and a branch, in the vicinities of a first absorption unit and a second absorption unit.

The applicants of the present invention specifically recognized that in a fluorine gas generator including a supply system in which raw material gas (e.g. hydrogen fluoride) is supplied and a discharge system in which generated gas (e.g. hydrogen and fluorine) are discharged, provided adjacent to each other, and in which the discharge system and the

supply system are not separated by a partition wall, if the raw material gas leaks in the supply system and the generated gas leaks in the discharge system, atmospheric pressure becomes higher in the supply system and lower in the discharge system, which causes a status such that a differential pressure between the supply system and discharge system is more likely to occur. In such situations gas may move from the supply system to the discharge system, and thereby the generated gas and the supplied gas are likely to be mixed.

To address such problems recognized by the applicants of the present invention, the second compartment and the third compartment that respectively contain the first absorption unit and the second absorption unit are located so as not to be in contact with each other, and in fact are separated by a central compartment, which thereby significantly reduces the risk of contact of fluorine gas and hydrogen gas.

Additionally, the applicants of the present invention recognized that the first absorption unit and the second absorption unit may produce high heat at a time of absorption of HF. In the claimed structure, since the second compartment and the third compartment are not provided adjacent to each other, but instead are provided adjacent to a central compartment, a situation can be avoided that the second compartment and the third compartment would contact another compartment also having a high temperature. Thereby, the claimed invention also provides a benefit of increasing the efficiency of heat dissipation.

None of the applied art recognizes such problems or overcomes such problems with a structure such as claimed in which:

said first compartment is located between said second compartment and said third compartment so that said second compartment and said third compartment are not in contact with each other.

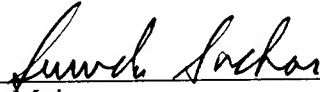
None of the cited art discloses or suggests achieving the benefits of the claimed invention noted above, nor the structure discussed above and as positively recited in the claims to realize such benefits.

In such ways, applicants respectfully submit each of independent claims 1 and 2, and the claims dependent therefrom, clearly distinguish over Tojo in view of Marumo and Fumio.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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